Grassroots Journal of Natural Resources, Vol.7 No.1 (April 2024)
ISSN: 2581-6853 | CODEN: GJNRA9 | Published by The Grassroots Institute
Website: https://grassrootsjournals.org/gjnr | Main Indexing: Web of Science

ISSN 2581-6853 | 7(1) Apr 2024

M – 00377 | Research & Analytical Article

Tourism and Recreational Industry for Rural Development in Ukrainian Mountains

Mariia Ilina*[1], Fabio Lopes Alves[2]
[1]Institute for Demography and Life Quality Problems, National Academy of Sciences, Kyiv, Ukraine; & Western Paraná State University, Av. Tarquínio Joslin dos Santos, 1300, Jardim Universitário, Foz do Iguaçu, Brazil.
Email: maria_ilina@ukr.net | ORCID: https://orcid.org/0000-0002-5555-1614
[2]Western Paraná State University, R. Universitária, 1619, Universitário, Cascavel, Brazil.
Email: fabiobidu@hotmail.com | ORCID: https://orcid.org/0000-0002-2114-3831
Corresponding Author

How to cite this paper: Ilina, M. and Alves, F.L. (2024). Tourism and Recreational Industry for Rural Development in Ukrainian Mountains. *Grassroots Journal of Natural Resources*, 7(1): 81-98. Doi: https://doi.org/10.33002/nr2581.6853.070105

Received: 04 February 2023
Reviewed: 20 May 2023
Provisionally Accepted: 15 June 2023
Revised: 04 January 2024
Finally Accepted: 10 January 2024
Published: 15 April 2024
Copyright © 2024 by author(s)

Publisher's Note: We stay neutral with regard to jurisdictional claims in published maps, permissions taken by authors and institutional affiliations.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
http://creativecommons.org/licenses/by/4.0/

Open Access

Executive (Chief) Editor
Dr. Hasrat Arjjumend
Associate Editors
Dr. Usongo Patience
Ms. Areej Sabir

Abstract

This article addresses how to develop national and local policy on tourism and recreation in mountainous rural areas considering the recreational capacity, demographic patterns and economic situations, with an emphasis on local livelihoods. Management of recreational natural resources is an integral component of the national environmental policy. It is considered that the recreational natural resources management is broader than the recreational industry management, since the former covers protection and restoration of the resources. The multiplier economic effect and joint use of recreational resources by various users are the key issues for the industry. Evidently, almost in all the Ukraine's regions, accessible recreational resources are not used efficiently enough. In order to evolve an appropriate sustainable tourism policy, a multilevel algorithm is developed on how to classify areas depending on the recreational resources and tourism industry. The algorithm supplies several policy models of the recreational industry's development, taking into account the types of settlements (urban, rural, intermediate, and mountainous), proximity of settlements to urban centres (urbanized and peripheral), recreational capacity of areas (high, medium, low), and economic efficiency of local recreational industry (productive, semi-productive, unproductive). Accordingly, three types of communities' development strategies have been suggested. They include the recreational focus, profound recreational industry, and recreations for locals. The novelty of this research is that it presents the approach on how to assess the capacity of local recreational recourses and the industry. The multilevel algorithm is proposed to classify areas and define better approaches for the local policies.

Keywords

Recreational natural resources; Recreation-and-tourism industry; Recreational capacity; Mountainous area; Algorithm

Introduction

Recreational resources include spa, sanatorium, resort services and many more. Tourism and recreation industry is important for the national economy and is applauded in many national, regional and local policy documents. Collins-Kreiner and Rem (2021) consider current national tourism strategies, and Nientied and Toto (2020) study new tourism policy for urban spaces. In the developing countries, researchers pay more attention on tourism governance (Siakwah, Musavengane and Leonard, 2020), tourism administration (Ndivo and Okech, 2020), and tourism regulation (Charles, 2019). Community-based tourism and its impact on communities' welfare and life standards are in the focus all over the world, such as in Lesotho (Thetsane, 2019), Columbia (Yanes *et al*., 2019) and Pakistan (Khalid *et al*., 2019).

Ministry of Ecology and Natural Resources of Ukraine is responsible for protection, conservation and judicious use of the recreational resources. Recreation and tourism industry is important for many countries, especially those having mountain areas. Typically, local strategies on how to use recreational resources do not match carefully with the resource capacity, facilities, personnel and the supplying industries. Particularly, it is true for mountain regions like Carpathians. The current unregulated mass tourism practices result either into the under-use of the recreation resources or, contrarily, its depletion. If local people disregard recreational capacities of the environment, tourist and recreational resources deplete and people get less income.

With it, it is argued that a local policy on natural recreational resources usage has to be developed within given challenges. The approach is to match the resource usage practices with the industry's capacities and facilities. The better policy has to facilitate the supply of recreational services and balance the resource usage in order to preserve the resources for future generations, save the environment and help locals to gain timely income, at least. This position is even more important for the Carpathian mountainous region. Consequently, the aim of the study is to classify areas depending on several geographic, demographic and economic variables in order to develop schemes of the policies that will provide a better life for the communities.

Review of Literature

Studies on the sustainable use of recreational natural resources are mostly interdisciplinary. Undertaken by academicians, such studies elaborate theory and methods to systematize and evaluate recreational resources and practice of its usage. Rutynsky and Zinko (2006) developed the theory of recreational natural resource use and drawn maps of the resource allocation outlining the structure. Rudenko, Vatseba and Solovey (2001) defined what the natural and recreational capacities of areas are. Matsola (1997) evaluated economic effects of recreational and tourism industry. Beidyk (2001) looked into approaches to managing natural recreational resources, and studied various types of recreational activities. Cherchyk and Mostenets (2016), Bernini and Cracolici (2015), and Massidda and Etzo (2012) studied how to protect and develop natural recreational resources sustainably. Yakovenko and Tahan (2009) studied the nature management and differentiated it by area types, and Bezugly (2014) developed the relevant strategies.

Some scholars have developed conceptual frameworks of spatial landscape and forest planning for recreation. Usually the size, distribution, shape, adjacency, connectivity, and proximity are the values to be assessed if spatial configuration of recreational areas is taken into consideration (Baskent and Keles, 2005). Other authors add one more value, which is the environmentally responsible behavior of tourists and vacationers (Lee *et al*., 2018). Charnley (2006) soundly notes in order to improve nature management that decision makers should ensure that natural-resource management policies are socially acceptable. In this regard, social and economic strategies should be based on accurate assumptions about the relations between the resources being managed and well-being of local communities.

With the structural analysis some authors have composed recreational resources, defining recreational activities, and assessing the industry's current status (Abbas and Sagsan, 2019). With mathematical approach, recreational capacities of communities' areas are assessed, along with the estimate indices of its social and ecological status (Suarez *et al*., 2020). At the same time, there are no approaches to segregate recreational resource usage depending on economic, demographic, and geographical status of areas. The issue is important for Ukraine in the context of the administrative and territorial reform, which gives territorial communities more opportunities to use and manage the natural resources.

Methodology

In this article, structural analysis is applied to define what natural recreational resources are and depict its position in the nature management system, considering its functions, key factors and impacts. Tourist and recreational capacities of rural areas are estimated by the index method. Relevant statistical data is processed further to provide a comparative assessment of the economic efficiency of the recreation industry. Graph and synthetic methods are applied to depict the multilevel algorithm, which classifies areas depending on its tourism and recreation capacities and spatial economic, demographic, and geographical status. Here the graph method's application is close to approaches to developing empirical models in tourism landscape planning (Siroosi, Heshmati and Salmanmahiny, 2020)[1]. The synthetic method is particularly applied to combine, integrate, and synthesize research findings in an advanced manner (Schick-Makaroff *et al*., 2016). Consequently, in this research, spatial and recreational comprehensive differentiations of areas were synthesized to elaborate a unique classification of the areas depending on the recreational industry's status and the policy. Finally, the policy development method was applied to supply regional and local strategies for the recreation and tourism industry. Usually, policy development includes the following steps: identification of the problem, elaboration, and adaptation of the document (law, decree, plan, or program), policy implementation, and evaluation.

The primary goal of this study is to classify areas depending on the ways of recreational natural resource usage in order to develop policies providing better economic and social outcomes. Firstly, it is defined what the recreational natural resources are with its components. Secondly, recreational and tourism capacities of communities' areas were assessed. Thirdly, the areas were classified accordingly and schemes of the recreational natural resource usage are suggested. Finally, regional and local strategies of the recreation and tourism industry's development have been proposed.

Moreover, a comprehensive assessment of the recreational industry by regions is performed in the following manner:

---

[1] For more information, please see https://t.ly/Q3aD2

1. Key dimensions of tourist and recreational capacities are identified.
2. Indicators relevant to the identified dimensions are selected.
3. Required database is defined, and the raw data is processed.
4. Specific, group, and aggregated indices are calculated.
5. The regions are divided into four groups according to the aggregated indices' scores.

Authors have modified comprehensive approach of Rudenko, Vatseba and Solovey (2001) who assessed natural and recreational potential (aka the capacity) depending on recreational zones, supplied services, natural reserves and facilities for extraction of mineral waters and mud. Consequently, four dimensions (values) of the tourist and recreational capacities were defined. The dimensions were 1) natural resources and ecological status of the areas, 2) the facilities and logistics, 3) economic efficiency of the industry, and 4) social efficiency of the industry. In the framework of the listed four dimensions, key indicators (variables) for the tourism industry's assessment were identified and related to its assets, as mentioned in table 1. The structure of the integral estimation of the tourism-and-recreation industry of Ukraine's regions is developed considering the research goal and based on earlier elaborations (for example, Pelishenko, 2015). State Statistical Service of Ukraine (2020) databases were consulted to find necessary data for the regions of Ukraine. Statistical exploratory analysis facilitated classifying the regions with indicators relevant to the recreation industry's efficiency (He *et al*., 2019)[2]. Variables, which are listed in table 1, have been processed with formulas 1-4, and relevant indices have been calculated with EXCEL tools. Particularly, specific indices were calculated with formulas 1 and 2, group indices – with formula 3, and aggregated indices – with formula 4 (Shubaly, 2011).

Table 1: Structure of the integral estimation of the tourism-and-recreation industry of Ukraine's regions

Values	*Variables*
Natural resources and the environment	Relative monetary value of natural recreational resources, USD per sq. km
	Emissions, tons per sq. km
Infrastructure	Spa and resort centers, units per sq. km
	Tourist and recreation camps for kids, units per sq. km
	Hotels, number of beds per sq. km
Economic efficiency	Recreants, persons per unit place in spa and resort centers
	Kids migration for recreation, %
	Hotels capacities used, %
	Tourists to population ratio, %
Social efficiency	Employees in spa and resort centers to population ratio, %
	Vulnerable kids to all kids in spa and resort centers ratio, %

For the listed variables in table 1, specific indices were calculated with the following formulae:

$$Y_{ij}^{k} = \frac{X_{ij}^{k}}{X_{jmax}^{k}} , \qquad (1)$$

---

[2] For more information, please see Statistical Analysis Handbook 2018 edition: https://www.statsref.com/HTML/index.html)

where X – a variable for i-region ($i = \overline{1, m}$; $m = 25$);
j – number of a variable in a value's set ($j = \overline{1, n}$; $n = 4$);
k – number of a value's set ($k = \overline{1, p}$; $p = 4$).

Indices calculated within the above-presented formula vary from 0 to 1, where 0 means the worst and 1 means the best scores of natural recreational resources in a region. Remarkably, for the emissions variable, the index is calculated with another formulae:

$$Y_{ij}^{k} = \frac{X_{jmin}^{k}}{X_{ij}^{k}} \ . \qquad (2)$$

Next, the specific indices were integrated in order to calculate complex scores for the natural and recreational industry of the regions, by applying following formula:

$$Y_i^k = \sqrt[n]{\prod_{j=1}^{n}(1 + Y_{ij}^{k})} - 1 \ , \qquad (3)$$

$$Y_i = \sqrt[p]{\prod_{k=1}^{p}(1 + Y_i^{k})} - 1 \ . \qquad (4)$$

The results of the calculations are presented in table 2, where the regions are divided into groups according to the aggregated indices' scores.

Results

Recreational natural resources management is a component of the system of nature management. The nature management system reflects the interactions of a society with the environment and is specified by the current socio-ecological paradigm, mainly known as the sustainable development concept (Figure 1).

Recreational activities mean supply of recreational services where required natural and industrial resources are located outside the permanent settlements of vacationers. The 'recreational natural resources use' is a broader term as it additionally embraces exploration of new recreational zones and resources, builds the recreational environment, and provides environmental protection, renovation, and the rational use. If these tasks are accomplished, the recreational resource management is considered to be rational. The recreational resources management is sustainable if it concurrently takes into account social and economic needs of people and constraints of the environment. Key challenge for the sustainable recreational natural resources management is to match growing demand for recreational services with the goal to preserve recreational resources and valuable historical and cultural sites.

Recreational resources have some specifics. Firstly, recreational resources cannot be separated from the environment or extracted. Secondly, they define range and types of recreational activities. Thirdly, the resources are multifunctional since they provide various health and recreation services. Fourthly, the economic effect is multiple if the resources are used in full (Eugenio-Martin and Campos-Soria, 2014). Fifthly, the recreational resource use can be coordinated with other fields of nature management. Sixth, the recreation becomes a priority industry if natural recreational resources are not used differently. Economic, social and environmental impact of recreational natural resources relates to its ability to catalyse economic growth and incomes, adds to employment of people who supply recreational and related services, and establishes a causal relationship between revenues of recreational entrepreneurs and quality of the environment (Job and Passler, 2013). Some scholars believe that outdoor recreation and nature-based tourism have the potential to contribute to sustainable lives, communities, and conservation and diverse local economies (Winter *et al*., 2020).

Recreational and tourism capacity of an area is determined by a set of available, site-specific natural, socio-economic, historical and cultural resources. Thus, the resources are a prerequisite of production and supply of recreational and tourist services. Usually, there is some gap between the resources capacity and the efficiency of their use. Sustainability of the recreational and tourism industry means that the resources are used in most appropriate/responsible way, and the recreational policy takes into account the social needs and economic benefits, without degrading the cultural assets. Consequently, recreational resources consist of areas and facilities where vacationers restore their health, recover and rest.

Usually the resources differ in contexts of natural (climate, land, water, landscape, flora, fauna, natural reserves, and mountains), historical and cultural (architecture, archaeology sites) and facilities (sanatoriums, resort centres, hotels, farms, camps). Resources of the recreation-and-tourism industry include nature, cultural heritage, buildings, logistics, finances, and human. Recreational natural resources mainly are used primarily by entities that produce and supply recreational services or are engaged into their production and supply.

In Ukraine, some gap in regulation over the tourism and recreation industry exists and impedes the development of the industry. In our opinion, the policy should focus primarily on providing equal opportunities for all suppliers of the recreational and tourist services. Yakovenko and Tahan (2009) prove that many natural, demographic and economic factors cause spatial inequality in the resource use. Together with these factors and conditions, the recreational resource capacity is different for different areas. It results into different opportunities for areas if tourism and recreation industry is developed. A targeted policy is essential to address disparities and bolster local communities. The strategies should enhance recreational activities in areas experiencing high demand for services, while ensuring sustainability. Additionally, it should offer supplementary incentives in regions where the recreational industry serves as a cornerstone for the local economy.

The set of variables and indicators of the recreational capacity is concurrent with international approach (UN WTO, 2004) and includes values on the environment since it contributes to the efficiency of the recreational industry (Stupen and Andrushenko, 2016). Thus, several indicators (stimuli and counter stimuli) are pointed out that will define the local environmental policy. For example, the decision makers can decide to set ecological routes, inform locals on benefits associated with recreational status of an area, and regulate extra number of vacationers (visitors) for each tourist season. Incorporation of ecological criteria into the recreation-planning frameworks would improve the integrated land management too (Morse, Hall and Kruger, 2009).

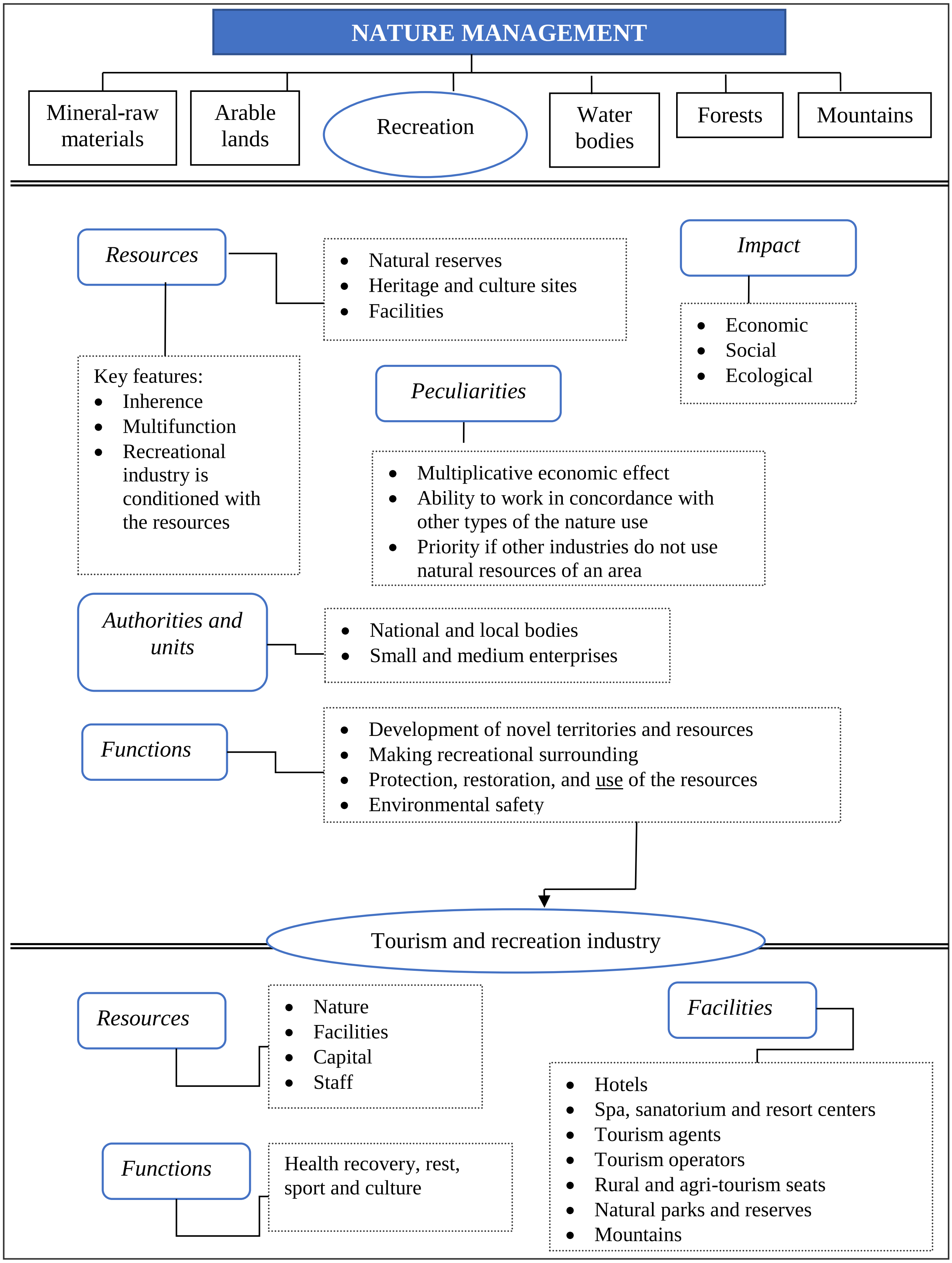
NATURE MANAGEMENT
Mineral-raw materials
Arable lands
Recreation
Water bodies
Forests
Mountains
Resources
Natural reserves
Heritage and culture sites
Facilities
Impact
Economic
Social
Ecological
Key features:
Inherence
Multifunction
Recreational industry is conditioned with the resources
Peculiarities
Multiplicative economic effect
Ability to work in concordance with other types of the nature use
Priority if other industries do not use natural resources of an area
Authorities and units
National and local bodies
Small and medium enterprises
Functions
Development of novel territories and resources
Making recreational surrounding
Protection, restoration, and use of the resources
Environmental safety
Tourism and recreation industry
Resources
Nature
Facilities
Capital
Staff
Facilities
Hotels
Spa, sanatorium and resort centers
Tourism agents
Tourism operators
Rural and agri-tourism seats
Natural parks and reserves
Mountains
Functions
Health recovery, rest, sport and culture

Figure 1: Management of tourism and recreational resources the industry

Classification of areas depending on recreational natural resource use and strategies of the communities' development is presented as the algorithm (Figure 2). In Ukraine, the environment, facilities and economic efficiency of the recreational industry are quite different for urban and rural areas. Therefore, for the recreational classification, areas are divided by types of settlements. In accordance with the variables of 'rural population share' and 'road availability of urban centres', the rural, urban, intermediate and mountainous areas are distinguished. Rural areas in Ukraine occupy over 90% of the country's geography with 52% of the total population. The rural areas, additionally, are divided into urban-like and remote, depending on variables of the population density and average road distance to cities (Figure 2). In the next step, areas are classified depending on the recreational and tourist capacity (RTC), and the efficiency of recreation-and-tourism industry (RTI). This approach helps define better policies of the recreational natural resource use for urban, rural urban-like and rural remote areas. This classification is closer to usual division of recreational landscapes and forests on urban, peri-urban and rural as classified by Pintilii (2022).

Table 2: Indices of tourism and recreation industry in Ukraine's regions, January 2020

Region	*Natural resources*	*Facilities*	*Economic efficiency*	*Social efficiency*	*Total index*
Ukraine*	0.249	0.514	0.472	0.453	0.417
1st group					
Dnipropetrovska	0.201	0.558	0.224	0.202	0.288
Zhytomyrska	0.340	0.233	0.198	0.324	0.272
Kirovogradska	0.340	0.212	0.452	0.288	0.322
Sumska	0.296	0.284	0.279	0.257	0.278
Ternopilska	0.280	0.352	0.340	0.219	0.298
Kharkivska	0.329	0.298	0.350	0.224	0.302
Chernigivska	0.391	0.218	0.268	0.226	0.273
2nd group					
Vinnytska	0.199	0.220	0.457	0.501	0.334
Zaporizka	0.206	0.327	0.513	0.464	0.370
Kyivska	0.278	0.308	0.377	0.379	0.334
Poltavska	0.219	0.274	0.499	0.348	0.330
Rivnenska	0.356	0.277	0.396	0.541	0.392
Khmelnytska	0.280	0.301	0.642	0.311	0.379
Cherkaska	0.271	0.532	0.348	0.383	0.382
3rd group					
Volynska	0.382	0.335	0.424	0.525	0.416
Ivano-Frankivska	0.294	0.552	0.437	0.434	0.428
Lvivska	0.305	0.568	0.633	0.528	0.503
Mykolayivska	0.322	0.626	0.395	0.401	0.431
Chernivetska	0.425	0.595	0.335	0.357	0.424
Kyiv city	0.420	1.000	0.608	0.101	0.497
4th group					
Zakarpatska	0.583	0.667	0.614	0.548	0.602
Odeska	0.477	0.683	0.474	0.634	0.562
Khersonska	0.370	0.614	0.608	0.602	0.544

* Excluding temporarily occupied territories of Crimea, Sevastopol city, and parts of Donetska and Luganska regions.

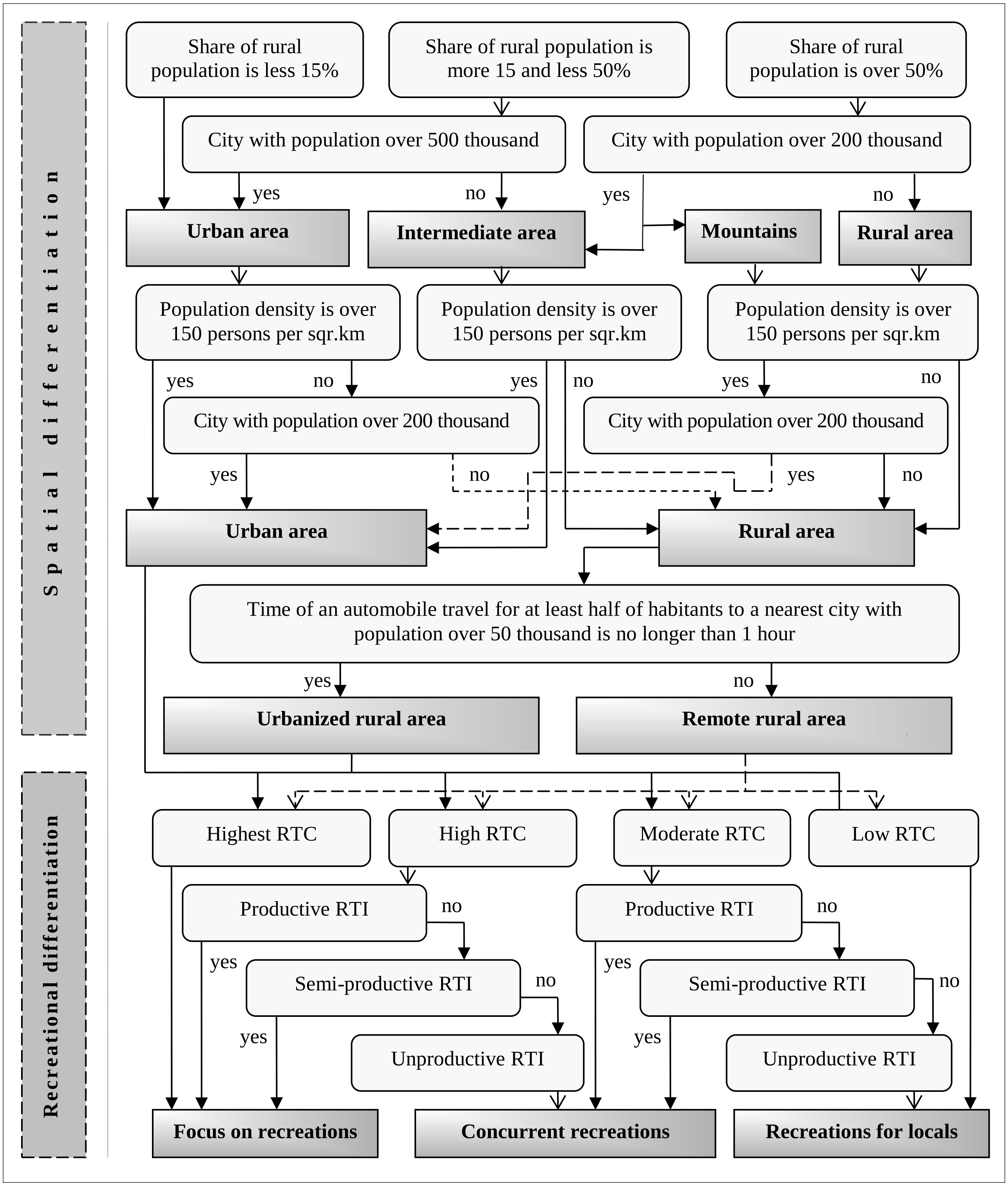
Spatial differentiation
Recreational differentiation
Share of rural population is less 15%
Share of rural population is more 15 and less 50%
Share of rural population is over 50%
City with population over 500 thousand
City with population over 200 thousand
yes
no
yes
no
Urban area
Intermediate area
Mountains
Rural area
Population density is over 150 persons per sqr.km
Population density is over 150 persons per sqr.km
Population density is over 150 persons per sqr.km
yes
no
yes
no
yes
no
City with population over 200 thousand
City with population over 200 thousand
yes
no
yes
no
Urban area
Rural area
Time of an automobile travel for at least half of habitants to a nearest city with population over 50 thousand is no longer than 1 hour
yes
no
Urbanized rural area
Remote rural area
Highest RTC
High RTC
Moderate RTC
Low RTC
Productive RTI
no
Productive RTI
no
yes
Semi-productive RTI
no
yes
Semi-productive RTI
no
yes
Unproductive RTI
yes
Unproductive RTI
Focus on recreations
Concurrent recreations
Recreations for locals

Figure 2: Areas' classification depending on the recreational industry's status and the policy

For the advantageous areas, focus should be on the recreation. For moderately favourable areas, prioritize recreations in concurrency with other industries. Likewise, for disadvantageous areas, use the recreational resources for local people only. This approach is consistent with the sustainable management principles. It is to support relations between local people and businesses, and prevent conflicts between the natural resource users (e.g., manufactures and agricultural producers, local people and visitors).

With the algorithm presented in figure 2, four groups of Ukraine's regions (Table 2) are identified depending on status and capacity of the recreation and tourism industry. The table 2 represents the four groups of regions characterized with the aggregated scores of the recreation and tourism industry, where 1 is the highest value and zero is the lowest. The first group exhibits the minimum values for the variables and is identified as associated with regions experiencing depression. The fourth one has the highest indicators and is belonging to leading regions. The second and the third groups have intermediate values and are identified as below average and above average.

The low values of the recreation and tourism industry's capacity are obtained mostly because of poor facilities. There are low numbers of sanatoriums and health resorts in Zhytomyrska (0.052), Sumska (0.078), Ternopilska (0.101) and Chernihivska (0.088) regions, and hotels in Kirovogradska (0.153) and Kharkivska (0.213) regions. Poor recreational natural resources are in Zhytomyrska (0.133), Kirovohradska (0.130), Sumska (0.154), and Ternopilska (0.196) regions. Air pollution is one of the environmental indicators affecting the index. Poor air is the recreation industry's counter stimulus for Dnipropetrovska (0.046) and Luhanska regions (0.074). Because of small number of vacationers, the industry is unproductive in Zhytomyrska (0.121), Kirovohradska (0.212), Luhanska (0.152), and Ternopilska (0.193) regions. In these regions, reasons of poor indices are a few travellers and an underuse of sanatoriums, hotels and health resorts.

The highest values of the recreational and tourism industry are observed in Zakarpatska (0.602), Odeska (0.562), and Khersonska (0.544) regions. However, these regions have low values of natural and recreational resources capacities and reduced number of summer camps for children (in Khersonska 0.138 and 0.291, respectively) as well as sanatoriums and resorts (in Zakarpatska 0.370). These reasons may reduce the recreational capacity of the regions down since the situation means the available recreational resources are not used profoundly.

Discussion

In Ukraine, the potential of the recreation and tourism industry remains underutilized, with a relatively small number of tourists and recreational visitors. Since 2000, a consistent downward trend has been observed in both inbound tourism (decreasing by 14% annually) and domestic tourism (decreasing by 7% annually), while the number of departing tourists has been increasing by 13% each year. This indicates a declining attraction of Ukraine as a recreational and tourist destination for both foreign and local citizens. However, coastal regions and cities with rich historical, cultural, and architectural sites, such as Kyivska, Lvivska, Chernivetska, Ivano-Frankivskka, and Zakarpatska regions, still show potential for the development of the recreational industry. Notably, the latter four regions are situated in the mountainous zones of the Carpathians.

The sustainable recreational natural resources management presumes efficient use of the resources, safety provisions and better spatial planning for recreational and tourist zones. Therefore, national and regional policies have to support conservation and restoration of valuable natural recreational areas, muds, mineral waters sources and historical and cultural heritage sites. The task is to establish the network of enterprises supplying spa and resort services and develop recreation and tourism industry in rural areas. Monitoring and control over the status of recreational resources prove that inventories, records, accounting and forecasting systems should be implemented as soon as possible (Kirkova, 2014).

Ukrainian scholars have presented various strategies and tools aimed at fostering the sustainable advancement of tourism and recreation. Panchenko, Sukach and Golub (2018) advocate for the reconstruction and modernization of domestic recreational resorts in alignment with existing legislation. However, ecotourism currently lacks comprehensive national regulation and oversight, highlighting the necessity to cultivate a conducive economic environment. Often emerging as a grassroots endeavour, ecotourism relies heavily on the grassroots support of local communities and farmers who provide recreational services. Furthermore, the success of ecotourism is intricately tied to the well-being and financial stability of local residents. As a community-driven sector, ecotourism typically operates independently of financial assistance from international programs and projects.

Contrary to the findings of Kalaitan *et al*. (2021), it is questionable whether the investment attractiveness of ecotourism in Ukraine will indeed see an increase. The assertion that tax incentives for farmers will adequately bolster rural enterprises appears doubtful, given that small businesses heavily rely on the purchasing capacity of consumers. The author contends that all visitors should be subject to tourist taxes, with the proceeds from environmental taxes either retained by local communities or allocated for the protection of local ecosystems. Our contention is that the proposed fiscal scheme is intricate and lacks a direct impetus for suppliers of rural tourist services. Considering the generally lower economic status of rural residents, we posit that the focus of rural tourism should be on supporting the local population rather than relying solely on tax-related measures.

Borysova *et al*. (2021) posit that ecotourism inherently embodies resilience during times of crises and facilitates rapid recovery thereafter. As an integral component of a national economy, tourism is subject to various attractors and stakeholders whose survival post-crises often takes on a different trajectory. While the objective here is to redirect the internal tourism market, the specific means and rationale for doing so remain unspecified. It is acknowledged that ecotourism operates as an independent and poorly administered business, grappling with numerous risks, fluctuations, and instabilities. Typically, both local authorities and farmers struggle to forecast the number of tourists and anticipate revenues for service providers. Robust models for predicting rural tourist flows are still underdeveloped, as crises, competitive environments, and substitutions for leisure and sporting activities tend to yield multifaceted economic effects. Bondar *et al*. (2023) assert that ecotourism plays a significant role in mitigating the negative impact of tourist travel on the environment. However, it is contended that ecotourism alone may not inherently promote environmental sustainability; rather, it necessitates active oversight and regulation by tourism agencies to minimize ecological impact. Implementing additional visa requirements for inbound tourists in Ukraine seems unnecessary, especially considering that ecotourists are typically local residents. Moreover, the standardization and certification of services could potentially stifle ecotourism. While citizen involvement in the daily life of a community is crucial, the primary responsibility for managing the tourism industry lies with authorities rather than local residents.

The focal point of discussion with Seneta and Dubovich (2022) revolves around the establishment of tourism clusters in Ukraine, involving the collaboration of various agencies, suppliers, and local authorities. However, the proposal raises concerns for rural areas, as it may lead to the creation of artificial units. Rural tourism in Ukraine is typically characterized by its chaotic and unstructured nature. Despite this, the primary advantage of rural tourism lies in its significant contribution to social and economic development. It generates additional employment opportunities, creates income for locals, and supports various service providers such as transportation, trade, sports, and entertainment. Enhanced support is imperative for tourism and recreation in mountain regions. The initial rationale stems from the considerable distances between high-altitude villages and urban centers. Remote alpine areas often face challenges in accommodating regular businesses and recreational services due to their isolated nature, even though the unique landscapes of high mountains and secluded hills hold significant appeal for ecotourists and those seeking a slower pace of life. Secondly, mountainous villages typically contend with inadequate infrastructure, outdated utilities, and limited daily services. The third factor is the prevalent issue of low incomes and poverty among the local population. Economic struggles are widespread in major alpine areas across Europe, underscored by the endorsement of various mountain conventions aimed at supporting residents as compelling evidence of the need for assistance.

These factors pose constraints on the advancement of tourism and recreational enterprises in alpine regions, necessitating additional efforts to boost the industry. To achieve this, a flexible development strategy is essential, and the algorithm outlined above can serve as a guide for policy adjustments. Emphasizing recreational activities becomes paramount when an alpine area is surrounded by captivating landscapes and possesses a well-established industry. Recreational entrepreneurs can successfully compete with the agri-industry, provided the natural environment is conducive and economic policies are supportive. Ensuring the sustainability and continuity of facilities such as hotels, spa resorts, camps, and other service providers is crucial. Any gaps or deficiencies in this network can confine areas to being recreational zones for locals only, even if the landscapes are unique and appealing to visitors.

Conclusions

Discussions about the recreation and tourism industry in Ukraine reveal some discrepancy between the available recreational capacities and efficiency of the resources usage. The multilevel algorithm of area classification is the framework to differentiate communities by type of settlements (urban, rural, intermediate or mountainous), proximity to urban centres (urbanized or remote rural areas), recreational resources capacities (high, medium, or low), and economic impact of the industry (productive, semi-productive, or unproductive). In order to complicate the algorithm, three strategies are proposed for a local recreational policy. They are the recreational focus, the recreational concurrency and recreations for local people. Tourism and recreations in vulnerable areas like alpines are complicated and constrained. The development strategy should be modified and the proposed algorithm can be applied for that purpose. Similarly for recreations in mountain regions, three alternatives are proposed. The first one is the focus on recreations if alpine areas are surrounded by attractive and ecologically functional landscapes and the sustainable tourism infrastructure. The second alternative is the prospective recreation if the industry is capacitive and the environment is friendly. Thirdly, recreations for local people are proposed if there are no solid nets of entities supplying recreational services.

References

Abbas, J. and Sagsan, M. (2019). Impact of knowledge management practices on green innovation and corporate sustainable development: A structural analysis. *Journal of Cleaner Production*, 229: 611-620. DOI: https://doi.org/10.1016/j.jclepro.2019.05.024

Baskent, E. and Keles, S. (2005). Spatial forest planning: A review. *Ecological Modelling*, 188(2–4): 145–173. DOI: https://doi.org/10.1016/j.ecolmodel.2005.01.059.

Beidyk, O. (2001). *Recreational and tourist resources in Ukraine: methodology and methods of the analysis, terminology, and zoning* [*Рекреаційно-туристські ресурси України: методологія та методика аналізу, термінологія, районування*]. Kyiv: VPID "Kiev University". [In Ukrainian].

Bernini, C. and Cracolici, M. (2015). Is participation in the tourism market an opportunity for everyone? Some evidence from Italy. *Tourism Economics*, 22(1): 57–79. DOI: https://doi.org/10.5367/te.2014.0409.

Bezugly, I. (2014). Imperatives to elaborate the strategy of ecological and economic development of recreational and tourist systems [Імперативи розробки стратегії еколого-економічного розвитку рекреаційно-туристичних систем]. *Bulletin of Berdyansk University of Management and Business*, 3(27): 84–90 [In Ukrainian].

Bondar, I., Shchoholieva, I., Sokolovskiy, V., Petrenko, N., Maliuga, L. and Tereshchuk, N. (2023). Prerequisites for the ecologization of recreational and tourist activities in Ukraine. IOP Conf. Series: Earth and Environmental Science, 1126: 012014. DOI: https://doi.org/10.1088/1755-1315/1126/1/012014.

Borysova, O., Shvedun, V., Sysoieva, S., Butenko, T., Tkachenko, T., Protsenko, N., Moiseeva, O., Ponomarenko, R. and Stankevych, S. (2021). Ecological tourism: pandemic lessons for Ukraine. *Ukrainian Journal of Ecology*, 11(1): 191-195. DOI: https://doi.org/10.15421/2021_30.

Charles, G. (2019). Coordinating regulatory agencies for improved tourism policy in Tanzania. *Journal of Hospitality and Tourism Insights*, 2(1): 2–17. DOI: https://doi.org/10.1108/JHTI-08-2018-0049.

Charnley, S. (2006). The Northwest Forest Plan as a Model for Broad-Scale Ecosystem Management: a Social Perspective. *Conservation Biology*, 20(2): 330-340. DOI: https://doi.org/10.1111/j.1523-1739.2006.00388.x.

Cherchyk, L. and Mostenets, O. (2016). Mechanism providing competitiveness of the recreational system of the region [Механізм забезпечення конкурентоспроможності рекреаційної системи регіону]. Lutsk: East-European National University named by Lesia Ukrainka [In Ukrainian].

Collins-Kreiner, N. and Ram, Y. (2021). National tourism strategies during the Covid-19 pandemic. *Annals of Tourism Research*, 89: 103076. DOI: https://doi.org/10.1016/j.annals.2020.103076.

Eugenio-Martin, J. and Campos-Soria, J. (2014). Economic crisis and tourism expenditure cutback decision. *Annals of Tourism Research*, 44: 53–73. DOI: https://doi.org/10.1016/j.annals.2013.08.013.

He, S., Yu, S., Wei, P. and Fang, C. (2019). A spatial design network analysis of street networks and the locations of leisure entertainment activities: A case study of Wuhan, China. *Sustainable Cities & Society*, 44: 880–887. DOI: https://doi.org/10.1016/j.scs.2018.11.007

Job, J. and Passler, F. (2013). Links between Nature-Based Tourism, Protected Areas, Poverty Alleviation and Crises – The Example of Wasini Island (Kenia). *Journal of Outdoor Recreation and Tourism,* 1: 18–28. DOI: https://doi.org/10.1016/j.jort.2013.04.004.

Kalaitan, T., Stybel, V., Gutyj, B., Hrymak, O., Kushnir, L., Yaroshevych, N., Vovk, M. and Kindrat, O. (2021). Ecotourism and sustainable development. *Ukrainian Journal of Ecology,* 11(1): 373–383. DOI: https://doi.org/10.15421/2021_55.

Khalid, S., Ahmad, M., Ramayah, T., Hwang, J. and Kim, I. (2019). Community Empowerment and Sustainable Tourism Development: The Mediating Role of Community Support for Tourism. *Sustainability,* 11: 6248. DOI: https://doi.org/10.3390/su11226248.

Kirkova, N. (2014). Forecasting key trends of the development of tourism industry in Ukraine [Прогнозування основних тенденцій розвитку туристичної галузі України]. *Efficient Economy,* 7. Available online: http://www.economy.nayka.com.ua/?op=1&z=3197 [Accessed 12 July 2023] [In Ukrainian].

Lee, T., Jan, F., Tseng, C. and Lin, Y. (2018). Segmentation by recreation experience in island-based tourism: a case study of Taiwan's Liuqiu Island. *Journal of Sustainable Tourism*, 26(3): 362-378. DOI: https://doi.org/10.1080/09669582.2017.1354865.

Massidda, C. and Etzo, I. (2012). The determinants of Italian domestic tourism: A panel data analysis. *Tourism Management*, 33(3): 603–610. DOI: https://doi.org/10.1016/j.tourman.2011.06.017.

Matsola, V. (1997). Recreational and tourist complex of Ukraine [Рекреаційно-туристичний комплекс України]. Institute of Regional Researches of National Academy of Sciences of Ukraine, Lviv [In Ukrainian].

Morse, W., Hall, T. and Kruger, L. (2009). Improving the Integration of Recreation Management with Management of Other Natural Resources by Applying Concepts of Scale from Ecology. *Environmental Management*, 43: 369–380. DOI: https://doi.org/10.1007/s00267-008-9227-y.

Ndivo, R. and Okech, R. (2020). Tourism Governance in Transition Period: Restructuring Kenya’s Tourism Administration from Centralized to Devolved System. *Tourism Planning & Developmen*t, 17 (2): 166–186. DOI: https://doi.org/10.1080/21568316.2019.1580210.

Nientied, P. and Toto, R. (2020). Learning from over-tourism; new tourism policy for the city of Rotterdam. *Urban Research & Practice*, 13 (5): 557–565. DOI: https://doi.org/10.1080/17535069.2020.1748343.

Panchenko, T., Sukach, M. and Golub, A. (2018). Sustainable Tourism Development in Ukraine. *Transfer of Innovative Technologies*, 1(2): 3–20. DOI: https://doi.org/10.31493/tit1812.0101.

Pelishenko, V. (2015). Theoretical and methodological approaches to assessing the level of competitive potential of sanatoriums [Теоретико-методичні підходи оцінки рівня конкурентного потенціалу санаторно-курортних підприємств]. *Bulletin of Berdyansk University of Management and Business,* 3(31): 46–52 [In Ukrainian].

Pintilii, R. (2022). Forest Recreation and Landscape Protection. *Forests*, 13: 1440. DOI: https://doi.org/10.3390/f13091440.

Rudenko, V., Vatseba, V. and Solovey, T. (2001). *Natural resources potential of the natural regions of Ukraine* [*Природо-ресурсний потенціал природних регіонів України*]. Chernivtsi: Ruta [In Ukrainian].

Rutynsky, M. and Zinko (2006). *Rural tourism* [*Сільський туризм*]. Kyiv: Znannia [In Ukrainian].

Schick-Makaroff, K., MacDonald, M., Plummer, M., Burgess, J., Neander, W. (2016). What Synthesis Methodology Should I Use? A Review and Analysis of Approaches to Research Synthesis. *AIMS Public Health*, 3(1): 172-215. DOI: https://doi.org/10.3934/publichealth.2016.1.172.

Seneta, Z. and Dubovich, I. (2022). Development of rural tourism in Ukraine in the context of sustainable development. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 22(3): 633–642. Available online at: https://managementjournal.usamv.ro/pdf/vol.22_3/Art67.pdf [accessed 11 March 2024].

Shubaly, O. (2011). Methodical and applied principles of the integrated assessment of complex use of forest resources potential [Методичні та прикладні засади інтегрального оцінювання комплексності використання лісоресурсного потенціалу]. *Statistics of Ukraine*, 3: 60–66 [In Ukrainian].

Siakwah, P., Musavengane, R. and Leonard, L. (2020). Tourism Governance and Attainment of the Sustainable Development Goals in Africa. *Tourism Planning & Development*, 17(4): 355–383. DOI: https://doi.org/10.1080/21568316.2019.1600160.

Siroosi, H., Heshmati, G. and Salmanmahiny, A. (2020). Can empirically based model results be fed into mathematical models? MCE for neural network and logistic regression in tourism landscape planning. *Environment, Development and Sustainability*, 22: 3701–3722 DOI: https://doi.org/10.1007/s10668-019-00363-y.

State Statistical Service of Ukraine (2020). Tourism in Ukraine. State Statistics Service in Ukraine, Kyiv. [In Ukrainian].

Stupen, M. and Andrushenko, V. (2016). Territorial attractiveness of natural and recreational resources of Zhytomyr region [Територіальна привабливість природно-рекреаційних ресурсів Житомирщини]. *Scientific Bulletin of Kherson State University*, 17(4): 94–97 [In Ukrainian].

Suarez, M., Barton, D., Cimburova, Z., Rusch, G., Gomez-Baggethun, E. and Onaindia, M. (2020). Environmental justice and outdoor recreation opportunities: A spatially explicit assessment in Oslo metropolitan area, Norway. *Environmental*

Science & Policy, 108: 133–143. DOI: https://doi.org/10.1016/j.envsci.2020.03.014

Thetsane, R. (2019). Local Community Participation in Tourism Development: The Case of Katse Villages in Lesotho. *Athens Journal of Tourism*, 6(2): 123–140. DOI: https://doi.org/10.30958/ajt.6-2-4.

UN WTO (2004). Indicators of Sustainable Development for Tourism Destinations: A Guidebook. United Nations World Tourism Organization, Madrid, Spain.

Winter, P., Selin, S., Cerveny, L. and Bricker, K. (2020). Outdoor Recreation, Nature-Based Tourism, and Sustainability. *Sustainability*, 12(1): 81. DOI: https://doi.org/10.3390/su12010081.

Yakovenko, I. and Tahan, T. (2009). Essence and specific features of the territorial recreational inequality [Сутність і специфічні особливості територіальної рекреаційної нерівності]. *Culture of the Black Sea People*, 152: 50–54 [In Ukrainian].

Yanes, A., Zielinski, S., Diaz Cano, M. and Kim, S. (2019). Community-Based Tourism in Developing Countries: A Framework for Policy Evaluation. *Sustainability*, 11: 2506. DOI: https://doi.org/10.3390/su11092506.

.

Authors’ Declarations and Essential Ethical Compliances

Authors’ Contributions (in accordance with ICMJE criteria for authorship)

Contribution	*Author 1*	*Author 2*
Conceived and designed the research or analysis	Yes	No
Collected the data	Yes	No
Contributed to data analysis & interpretation	Yes	Yes
Wrote the article/paper	Yes	No
Critical revision of the article/paper	Yes	Yes
Editing of the article/paper	Yes	Yes
Supervision	Yes	Yes
Project Administration	Yes	Yes
Funding Acquisition	No	No
Overall Contribution Proportion (%)	70	30

Funding
No financial support was received for the research and writing of this article.

Research involving human bodies or organs or tissues (Helsinki Declaration)
The author(s) solemnly declare(s) that this research has not involved any human subject (body or organs) for experimentation. It was not a clinical research. The contexts of human population/participation were only indirectly covered through literature review. Therefore, an Ethical Clearance (from a Committee or Authority) or ethical obligation of Helsinki Declaration does not apply in cases of this study or written work.

Research involving animals (ARRIVE Checklist)
The author(s) solemnly declare(s) that this research has not involved any animal subject (body or organs) for experimentation. The research was not based on laboratory experiment involving any kind animal. The contexts of animals were only indirectly covered through literature review. Therefore, an Ethical Clearance (from a Committee or Authority) or ethical obligation of ARRIVE does not apply in cases of this study or written work.

Research on Indigenous Peoples and/or Traditional Knowledge
The author(s) solemnly declare(s) that this research has not involved Indigenous Peoples as participants or respondents. The contexts of Indigenous Peoples or Indigenous Knowledge were only indirectly covered through literature review. Therefore, prior informed consent (PIC) of the respondents or a Self-Declaration in this regard is not applicable for this article.

Research involving Plants
The author(s) solemnly declare(s) that this research has not involved the plants for experiment and field studies. Some contexts of plants are also indirectly covered through literature review. Yet, during this research the author(s) obeyed the principles of the Convention on Biological Diversity and the Convention on the Trade in Endangered Species of Wild Fauna and Flora.

Research Involving Local Community Participants (Non-Indigenous) or Children
The author(s) solemnly declare(s) that this research has not directly involved any local community participants or respondents belonging to non-Indigenous peoples. Neither this study involved any child in any form directly. The contexts of different humans, people, populations, men/women/children and ethnic people were only indirectly covered through literature review. Therefore, an Ethical Clearance (from a Committee or Authority) or prior informed consent (PIC) of the respondents or Self-Declaration in this regard does not apply in cases of this study or written work.

(Optional) PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)
The author(s) has/have NOT complied with PRISMA standards. It is not relevant in case of this study or written work.

Competing Interests/Conflict of Interest
Author(s) has/have no competing financial, professional, or personal interests from other parties or in publishing this manuscript. There is no conflict of interest with the publisher or the editorial team or the reviewers.

Attribution and Representation
All opinions and mistakes are the author(s)' own and cannot be attributed to the institutions they represent. The publisher is also not responsible either for such opinions and mistakes in the text or graphs or images.

Rights and Permissions

Open Access. This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/.

***

To see original copy of these declarations signed by Corresponding/First Author (on behalf of other co-authors too), please download associated zip folder [Declarations] from the published Abstract page accessible through and linked with the DOI: https://doi.org/10.33002/nr2581.6853.070105.